

<b>FACSIMILE TRANSMITTAL FORM</b>	Application Number	09/691352
	Filing Date	October 18, 2000
	First Named Inventor	Pinault, Duane M.
	Art Unit	1772
	Examiner Name	Patricia Nordmeyer
Fax: 571-273-8300	Attorney Docket Number	55126US002
Total Number of Pages in This Submission: 12		
Date: October 10, 2005	Attorney for Applicant: Colene H. Blank	

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Patent  
Case No.: 55126US002

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

First Named Inventor: PINAULT, DUANE M.  
Application No.: 09/691352 Group Art Unit: 1772  
Filed: October 18, 2000 Examiner: Patricia Nordmeyer  
Title: INTEGRATED GRANULE PRODUCT

**BRIEF ON APPEAL**

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October 10, 2005	<i>Kim Elfstrom</i>
Date	Signed by: Kim Elfstrom

Dear Sir:

This is an appeal from the Office Action mailed on May 11, 2005 finally rejecting claims 2-11, 26-29, 35, 37 and 39-42.

A Notice of Appeal in this application was mailed on August 9, 2005, and was received in the USPTO on August 9, 2005.

The fee required under 37 CFR § 41.20(b)(2) for filing an appeal brief should be charged to Deposit Account No. 13-3723.

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**REAL PARTY IN INTEREST**

The real party in interest is 3M Company (formerly known as Minnesota Mining and Manufacturing Company) of St. Paul, Minnesota and its affiliate 3M Innovative Properties Company of St. Paul, Minnesota.

**RELATED APPEALS AND INTERFERENCES**

Appellants have also appealed a related case, application number 10/124451, attorney docket number 55126US003, which is a continuation-in-part of the presently appealed application.

**STATUS OF CLAIMS**

Claims 2-11, 26-29, 35, 37 and 39-42 are pending. Claims 2-11, 26-29, 35, 37 and 39-42 stand rejected.

**STATUS OF AMENDMENTS**

No amendments have been filed after the final rejection.

**SUMMARY OF CLAIMED SUBJECT MATTER**

The claims at issue concern an integrated granule product, more particularly to an integrated granule product utilizing ceramic coated granules bonded to either a film with a cured adhesive or a self-supporting adhesive film.

First, the claims are directed to an article comprising an integrated granule product. The integrated granule product comprises a film having a plurality of ceramic coated granules bonded to the film by a cured adhesive bonded to a roofing material substrate. As reference, the Applicants direct the Board to Figure 1. A discussion of the ceramic coated granules can be found, for example, at page 8, line 30 to page 9, line 18 of the application as filed. A discussion of the cured adhesive can be found, for example, at page 5 line 21 to page 6, line 11 and page 7, line 8 to page 8, line 5 of the application as filed.

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Additionally, the claims are directed to an article comprising an integrated granule product bonded to an asphalt-based substrate, said integrated granule product comprising a film having a plurality of ceramic coated granules bonded to said film by a cured adhesive. The discussion of the asphalt-based substrate can be found, for example, at page 11, line 16 to page 12, line 31 of the application as filed.

### **GROUND OF REJECTION TO BE REVIEWED ON APPEAL**

#### **First Ground of Rejection**

Claims 2-11, 26-29, 35, 37 and 39-42 stand rejected under 35 USC § 103(a) as being unpatentable over U.S. Patent Number 5,783,303 to Tsuei ("Tsuei") in view of U.S. Patent Number 3,937,640 to Tajima et al. ("Tajima") and U.S. Patent Number 5,484,477 to George et al. ("George").

### **ARGUMENT**

#### **First Ground of Rejection**

Claims 2-11, 26-29, 35, 37 and 39-42 stand rejected under 35 USC § 103(a) as being unpatentable over U.S. Patent Number 5,783,303 to Tsuei ("Tsuei") in view of U.S. Patent Number 3,937,640 to Tajima et al. ("Tajima") and U.S. Patent Number 5,484,477 to George et al. ("George").

The Examiner states that Tsuei discloses an article with a plurality of ceramic granules bonded to a polymeric film by a radiation curable aliphatic urethane acrylic copolymer for use as part of anti-slip products or coatings for abrasive articles. The Examiner admits that Tsuei fails to teach the article being a roofing shingle or a roll of roofing material.

The Examiner then states that George teaches integrated granule products made with a ceramic coated slate base granule and coated with a film, and the granules are then adhered to the asphalt surface of a shingle backing. The Examiner also states that Tajima teaches a waterproof assembly of laminated roofing membranes with a thin film layer covering the top surface of the roofing membrane.

The Examiner's position is that it would have been obvious to one of ordinary skill in the art to have provided the thin film coating of Tsuei on the roofing membrane of Tajima, since

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Tajima shows the use of a thin film on the roofing membrane. The Examiner also takes the position that it would have been obvious to have provided the ceramic coated particles of George instead of the particles of Tsuei, since both provide a weather resistant surface.

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on Applicant's disclosure.

None of the references teach an integrated granule product comprising a film having a plurality of ceramic coated granules bonded to the film by a cured adhesive bonded to a roofing material substrate as recited in Claim 26.

Nothing would motivate one of skill in the art to take an element from the abrasive arts, namely curing abrasive grains to a film, from Tsuei and use them on a roofing shingle. The abrasive grains in Tsuei are attached to a film for use as an anti-slip or abrasive article. One looking at Tsuei would not then take the disclosure for use in a roof. Furthermore, nothing in Tajima teaches putting a film having granules bonded to a roofing material. In the embodiments with granules disclosed, the granules are placed in the bitumen. In the alternative, a polymer film may be placed on top instead of the granules. Col. 9, lines 34-45 of Tajima.

Additionally, the element of a ceramic coated granule is not taught in Tsuei. Therefore, the combination of Tsuei and Tajima would not teach all the claim limitations. The Examiner states that Tsuei discloses an article with a plurality of ceramic granules bonded to a polymeric film by a radiation curable aliphatic urethane acrylic copolymer. However, the element of a ceramic coated granule is not taught in Tsuei. The Examiner acknowledges that Tsuei teaches solid ceramic granules instead of ceramic coated granules. However, the Examiner takes the position that the solid granules are performing an equivalent function to the Applicant's ceramic coated granules, unforeseen of any unexpected results from the coated ceramic granules. "[I]n order to rely on equivalence as a rationale supporting an obviousness rejection, the equivalency must be recognized in the prior art, and cannot be based on applicant's disclosure or the mere

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fact that the components at issue are functional or mechanical equivalents.” MPEP 2144.06. The Examiner has offered no evidence that any such equivalency is recognized in the prior art. Applicants can find no such evidence in Tsuei. Thus, the Examiner has not met the required burden and the rejection should be withdrawn. Further, it is noted that the mere fact that the prior art *may be* modified does not make the modification obvious unless the prior art suggested the desirability of the modification. *In re Fritch*, 23 USPQ2d 1780, 83-84 (Fed. Cir. 1992). Should the Examiner be relying on information beyond the disclosure of Tsuei, applicants again respectfully request that the Examiner provide any such information that might support the Examiner's position in an affidavit, as required by 37 CFR §1.104(d)(2), since the mere allegation that the differences between the claimed subject matter and the prior art are obvious does not create a presumption of unpatentability. See *In re Soli*, 137 USPQ 797 (CCPA 1963).

Additionally, the Examiner has not shown ceramic coated granules in the art, much less that they would be equivalent to the ceramic granules of Tsuei. Tsuei is directed to a purpose other than roofing shingles, and therefore Tsuei does not teach that an equivalent of the ceramic granules of Tsuei is useful as a roofing granule. Also, nothing in Tsuei would suggest making the modification suggested by the Examiner. In fact, the Examiner's argument that the granules in the present claims could be a ceramic granule coated with a ceramic material is irrelevant to the issue at hand. Even if so, Tsuei fails to teach or suggest ceramic coated granules and additionally fails to suggest that a ceramic coated granule is equivalent to a ceramic granule.

With respect to the George reference, the granules of George are not in a polymer film. George teaches to coat a thin film of organic oil onto the granule surface. Col. 7, ll. 3-5. This coating may include an adhesion promoter. Col. 7, ll.17-25. There is no teaching or suggestion in George to create a separate film. In fact, George fails to teach or suggest curing or solidifying the oil coating on the granules at all, much less to solidify them as a separate film.

The combination of George and Tajima fails as well, as there is no teaching of a film having a plurality of ceramic coated granules.

Applicants assert that the rejection of claims 2-11, 26-29, 35, 37 and 39-42 under 35 USC § 103(a) as being unpatentable over Tsuei in view of Tajima and George has also been overcome and should be reversed.

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**CONCLUSION**

For the foregoing reasons, appellants respectfully submit that the Examiner has erred in rejecting this application. Please reverse the Examiner on all counts.

October 10, 2005  
Date

Respectfully submitted,

By: Colene H. Blank

Colene H. Blank, Reg. No.: 41,056

Telephone No.: 651-737-2356

Office of Intellectual Property Counsel  
3M Innovative Properties Company  
Facsimile No.: 651-736-3833

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**CLAIMS APPENDIX**

1. (Canceled)
2. (Previously Presented) The article of claim 26, wherein said integrated granule product is pliable as determined by mandrel flexibility test procedures according to ASTM D-228-00.
3. (Previously Presented) The article of claim 26, wherein said film is a polymeric material.
4. (Previously Presented) The article of claim 26, wherein said cured adhesive is cured through the use of ultraviolet radiation, thermal radiation, actinic radiation, ionizing radiation, moisture activation, photo activation, or combinations thereof
5. (Previously Presented) The article of claim 26, wherein said cured adhesive is flexible as indicated by a tensile elongation result of 25% or greater according to ASTM D-882.97.
6. (Previously Presented) The article of claim 26, wherein said adhesive is selected from acrylated urethanes, multifunctional acrylate monomers, acrylated epoxies, acrylated polyesters, acrylated polyethers, urethanes, epoxies, acrylics, phenolics, cyanate esters, bismaleimides, hot melts of polyester, polyamides, polyolefins, derivatized polyolefins or combinations thereof
7. (Previously Presented) The article of claim 26, wherein said adhesive is an acrylated aliphatic urethane.
8. (Previously Presented) The article of claim 26, wherein said cured adhesive does not adversely affect an aesthetic color of said ceramic coated granules as indicated by a one unit or more change in any HunterLab color scale coordinates of L\*, a\*, or b\*.
9. (Previously Presented) The article of claim 26, wherein said ceramic coated articles are white and the product exhibits a HunterLab color scale coordinate L\* value of 64 or greater.
10. (Previously Presented) The article of claim 26, wherein said cured adhesive or said film



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includes toughening agents, pigments, adhesion promoters, dyes, filling agents, initiators, catalysts, antimicrobials, algaecides, ultraviolet stabilizers, ultraviolet absorbers, antioxidants or combinations thereof

11. (Previously Presented) The article of claim 26, wherein said film includes a primer layer.

12-25 (Canceled)

26. (Previously Presented) An article comprising, an integrated granule product comprising a film having a plurality of ceramic coated granules bonded to said film by a cured adhesive bonded to a roofing material substrate.

27. (Original) The article of claim 26, wherein the substrate is an asphalt-based substrate, metal substrate, polymeric substrate, concrete substrate, tile substrate, fiber substrate, wood substrate or combinations thereof.

28. (Original) The article of claim 26, wherein the article is a roofing shingle or a roll of roofing material.

29. (Original) The article of claim 28, wherein said roofing shingle exhibits a tensile strength, according to American Roofing Manufacturers Association Test Index No. 2,126, of greater than 50% over a shingle without said integrated granule product.

30-34 (Canceled)

35. (Previously Presented) The article of claim 26, wherein said granules are bonded to said film by a layer of said cured adhesive.

36. (Canceled)

37. (Previously Presented) The article of claim 26, wherein the integrated granule product

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forms the exposed surface layer of a roofing material.

38. (Canceled)

39. (Previously Presented) The article of claim 27, wherein the article is a roofing shingle or a roll of roofing material.

40. (Previously Presented) An article comprising an integrated granule product bonded to an asphalt-based substrate, said integrated granule product comprising a film having a plurality of ceramic coated granules bonded to said film by a cured adhesive.

41. (Previously Presented) The article of claim 40, wherein the integrated granule product forms the exposed surface layer of a roofing material.

42. (Previously Presented) The article of claim 40, wherein the article is a roofing shingle or a roll of roofing material.

Application No.: 09/691352Case No.: 55126US002**EVIDENCE APPENDIX**

None.

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Application No.: 09/691352Case No.: 55126US002**RELATED PROCEEDINGS APPENDIX**

Appellants have also appealed a related case, application number 10/124451, attorney docket number 55126US003, which is a continuation-in-part of the presently appealed application.